

REMARKS

Upon entry of the instant amendment, claims 1-6 and 9-15 will remain pending in the present application.

In the instant amendment, claims 1-6 have been amended, claim 7 has been cancelled, and claims 9-15 have been added.

The instant amendment made herein to the claims does not incorporate new matter into the application as originally filed. For example, claim 1 has been amended to incorporate the features of claim 7, which has been cancelled. The amendments to claims 1-6 are self-supported, respectively. New claim 9 is based on claims 1 and 7. New claims 10-15 are based on claims 2-6.

Proper consideration of each of the pending claims (i.e., claims 1-6 and 9-15) is respectfully requested at present, as is entry of the present amendment.

Rejections under 35 U.S.C. § 102

Claims 1, 2 and 7 have been rejected under 35 USC § 102(b) as being anticipated by Latta US '629 (US 4,526,629). Further, claims 1-5 and 7 have been rejected under 35 USC § 102(b) as being anticipated by Subramanian US '260 (US 6,294,260). Still further, claims 1, 2 and 7 have been rejected under 35 USC § 102(b) as being anticipated by Maloney US '200 (US 6,177,200). Reconsideration and withdraw of each of these rejections is respectfully requested based on the following considerations.

Present Invention

The present invention is directed to a heat-resistant coated member as recited claims. Specifically, as recited in claim 1, the present invention is a heat-resistant coated member in which a substrate consisting of a metal selected from the group consisting of molybdenum, and tantalum, is directly coated by a thermal spraying operation with a layer consisting of lanthanoid-containing oxide.

Regarding a substrate, it is a feature that a substrate consists of a metal selected from the group consisting of molybdenum (Mo), and tantalum (Ta) (the substrate of Mo or Ta). Regarding a layer, it is a feature that a layer consists of lanthanoid-containing oxide (the lanthanoid oxide layer).

Further, it is also a feature that the substrate is directly coated by a thermal spraying operation with the layer.

Latta US '629

Latta US '629 fails to disclose or suggest the specific structure of the present invention as recited in claim 1. Especially, Latta US '629 fails to disclose or suggest that “the substrate is directly coated by a thermal spraying operation with the layer.”

Latta US '629 relates to a preparation of insulating layers by oxidizing materials catalytically at temperatures far below the process parameters of pressure and temperature normally required for such oxidation reactions. Latta US '629 teaches a substrate of Nb or Ta which is covered with an oxide layer of Ce, Pr or Tb. Further, Latta US '629 discloses “cerium, arrayed as one or a few monolayers on a substrate surface of niobium metal, acts as a catalyst to

oxidation of the niobium substrate at ambient temperature and results in a thin, very high quality insulating layer.” (See column 3, lines 13-17). Thus, the overlayer has catalytically active and is very thin (less than 3 nm).

However, in Latta US '629, as shown in Fig.1, there is an intermediate layer between a cerium oxide layer (an overlayer) and a substrate. Namely, the substrate is not covered directly with the layer. Further, the overlayer is formed by an evaporation not by the thermal spraying as recited in claim 1.

Thus, the present invention is not anticipated by Latta US '629 since the cited reference fails to disclose or suggest a feature of the present invention.

Subramanian US '260

Subramanian US '260 fails to disclose or suggest “a substrate consisting of a metal selected from the group consisting of molybdenum, and tantalum” (the substrate of Mo or Ta), which is a feature of the present invention.

In Subramanian US '260, a substrate comprises Ni or Co based superalloy. Thus, the present invention is not anticipated by Subramanian US '260.

Maloney US '200

Maloney US '200 also fails to disclose or suggest “a substrate consisting of a metal selected from the group consisting of molybdenum and tantalum”.

In Maloney US '200, a substrate comprises a superalloy of Fe-, Ni- or Co- based superalloy. Thus, the present invention is not anticipated by Maloney US '200.

Rejections under 35 U.S.C. § 35 USC § 103

Claims 1-3 and 5-7 have been rejected under the 35 USC § 103(a) as being unpatentable over Beele US '526 (US 6,387,526) in view of Strangman US '482 (US 5,514,482). Claims 1 and 5-7 have been rejected under the same statute as being unpatentable over Heimberg US '575 (US 6,440,575) in view of Strangman US '482. Further, claim 5 has been rejected under the 35 USC § 103(a) as being unpatentable over Maloney US '200. Each of these rejections is respectfully traversed and reconsideration and withdraw thereof is respectfully requested based on the following considerations.

Beele US '526

Beele US '526 fails to disclose or suggest “a substrate consisting of a metal selected from the group consisting of molybdenum, and tantalum”.

The substrate of Beele US '526 is formed of a superalloy based on Ni, Co and Fe (e.g., see column 7, lines 33-37.) Therefore, the substrate of Mo or Ta of the present invention is distinguished from the substrate of Beele US '526.

Thus, this cited reference fails to disclose or suggest the present invention.

Strangman US '482

Strangman US '482 also fails to disclose or suggest “a substrate consisting of a metal selected from the group consisting of molybdenum, and tantalum”.

The substrate of Strangman US '482 is formed of a superalloy containing Al, Ti, Cr, Co, etc. (see Table 1 at column 3 of Strangman US '482.) Therefore, the substrate of Mo or Ta of the present invention is distinguished from the substrate of Strangman US '482.

Further, Strangman US '482 fails to disclose or suggest that the substrate is directly coated by a thermal spraying operation with a layer consisting of lanthanoid-containing oxide, which is also a feature of the present invention. In Strangman US '482, there is an aluminide coating on a substrate (see a layer "5" of Fig. 1 and column 5, lines 49-50 of Strangman US '482). Namely, the substrate is not covered directly with the lanthanoid oxide layer.

Thus, the cited Strangman US '482 reference fails to disclose or suggest the present invention.

Heimberg US '575

Heimberg US '575 also fails to disclose or suggest "a substrate consisting of a metal selected from the group consisting of molybdenum, and tantalum".

The substrate of Heimberg US '575 is made of a Ni, Co and Cr based superalloy (e.g., see column 4, line 66-column 4, line 1.) Therefore, the substrate of Mo or Ta of the present invention is distinguished from the substrate of Heimberg US '575.

Thus, this cited reference also fails to disclose or suggest the present invention.

Maloney US '200

As explained above, Maloney US '200 also fails to disclose or suggest "a substrate consisting of a metal selected from the group consisting of molybdenum and tantalum".

Combination of the Cited References

A *prima facie* case of obviousness is not established even if the cited references are combined, since none of the cited references disclose or suggest the specific structures of the present invention, e.g., the substrate of Mo or Ta. Likewise, it follows that a person having ordinary skill in the art would not be motivated by any of the teachings of the cited references to arrive at the present invention.

Accordingly, the present invention (claim 1 and other claims dependent therefrom) is not obvious over the cited references. Further, independent claims 9-10 and other claims dependent therefrom also have technical features similar to claim 1. Thus, independent claims 9-10 and other dependent claims are also patentable.

Double-Patenting

At page 2 of the Office Action, claims 1-3 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1 of co-pending Application No. 10/715,473. Should this co-pending application be allowed, Applicants will file a Terminal Disclaimer in the present application.

CONCLUSION

Based upon the amendments and remarks submitted herein, the Examiner is respectfully requested to issue a Notice of Allowance indicating that all pending claims are allowed and patentable under Title 35 of the United States Code.

Application No. 10/825,303
Amendment dated December 27, 2005
Reply to Office Action of August 24, 2005

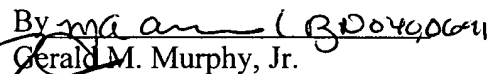
Docket No.: 0171-1056P

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Gerald M. Murphy, Jr. (Reg. No. 28,977) at the telephone number below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

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Respectfully submitted,

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